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ABSTRACT

The relationship between anxiety, educational self-theory, and vocational preference was investigated using two separate samples (149 and 262) of high school students. Anxiety was measured using the anxiety component of Zuckerman's Affect Adjective Checklist (AACL). A measure of self-theory was obtained via the Profile of Read/Ideal Scholastic Motivation (PRISM), and vocational interest was measured by Holland's Vocational Preference Inventory (VPI). The research data lent support to all three hypotheses: (1) that high-anxious subjects would have a lower degree of differentiation on the VPI than low-anxious subjects; (2) that there would be a positive correlation between anxiety and the Diversity of Ideas scores on PRISM; and (3) that high-anxious subjects would select occupations of higher prestige than low-anxious subjects. The results indicate that anxiety is clearly related both to diversity of ideas and to social factors such as extrinsic motivation and status. It is suggested that by stressing external rewards and direction, schools may be raising anxiety levels and limiting vocational choice, particularly for females. (Author/MEK)

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VOCATIONAL PREFERENCE, ANXIETY AND EDUCATIONAL
SELF-THEORY OF HIGH SCHOOL STUDENTS.



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Abstract

The relationship between anxiety, educational self-theory and vocational preference was investigated using two separate samples of Australian high school students ($n_1 = 149$, $n_2 = 262$). Anxiety was measured using the anxiety component of Zuckerman's Affect Adjective Checklist (AACL); a measure of self-theory was obtained via the Profile of Real/Ideal Scholastic Motivation (PRISM); and vocational interest was measured by Holland's Vocational Preference Inventory (VPI). It was hypothesized that high-anxious subjects would have a lower degree of differentiation on the VPI than low-anxious subjects, that there would be a positive correlation between anxiety and the Diversity of Ideas scores on PRISM, and that high-anxious subjects would select occupations of higher prestige than low-anxious subjects. All the hypotheses were supported. The results, which support the predictions of Walsh and Lewis (1972) (Hypothesis Two), and Grimm and Nachmais (1977) (Hypothesis Three), indicate that anxiety is clearly related both to diversity of ideas and to social factors such as extrinsic motivation and status. It is suggested that by stressing external rewards and direction, schools may be raising anxiety levels and limiting vocational choice, particularly for females.

Vocational Preference, Anxiety and Educational
Self-Theory of High School Students.

Vocational preferences and the determinants of occupational choice have been linked with a number of factors including personality, achievement, abilities, self-concept and status (Grimm and Nachmias, 1977). Anxiety has also been linked with vocational choice. Kimes and Troth (1974) found that students exhibiting career indecision demonstrated significantly more trait anxiety than those students who had chosen careers. A possible inverse relationship between trait anxiety and career decision/satisfaction was suggested.

Sharf (1972) attempted to extend the Taylor-Spence Drive Theory to vocational choice behaviour and investigated whether high-anxiety subjects responded more slowly to competing occupational choices and faster to non-competing choices than low-anxiety subjects. Anxiety did not have any significant effect on vocational choices.

Walsh and Lewis (1972) investigated the relationship between personality variables, and college choices varying in congruency with response to Holland's Vocational Preference

Inventory. While numerous aspects of personality were examined, anxiety in particular revealed a significant relationship with degree of congruity exhibited in college choice. Students who made congruent college choices demonstrated significantly less anxiety than students who were undecided or who made incongruent college choices.

In contrast to this, the relationship between anxiety, creativity and vocational choice was examined by Grimm and Nachmias (1977) who hypothesized that high divergent (creative) subjects would express occupational preference inconsistent with intellectual interest, that high anxious subjects would demonstrate relative consistency, and that high anxiety subjects would select high status occupations. The results confirmed these hypotheses. Thus, high anxious subjects tended to choose occupational interests similar to their intellectual interests, from a high prestige level.

The apparent conflict between these two studies, the latter hypothesizing high anxiety with inconsistency and the former high anxiety with congruity, demands some reconciliation. It might be argued that incongruity results in higher anxiety, and that as a response the individual attempts to increase consistency, either real or imagined, in an effort to reduce anxiety. The Walsh and Lewis study contrasts self-report vocational interest with actual college choice, whereas the Grimm and Nachmias study contrasts self-report vocational interest with self-report indicators of intellectual interest. The former may be an

an indicator of real incongruity, the latter of imagined consistency.

The present study was designed to further investigate the relationship between trait anxiety, educational self-theory and vocational interest. Self-theory, as described by Epstein (1973) subsumes the idea of self-concept. Viewed as a set of postulates one has about oneself that can be tested and falsified, self-theory is more dynamic than the more static self-concept. Educational self-theory refers to that set of postulates one holds about oneself in the educational setting. The Profile of Real/Ideal Scholastic Motivation (PRISM; Docking, 1979) is fundamentally a set of thirty such postulates to which the respondent can agree or disagree. It reveals an educational self-theory orientation in three dimensions; involvement with ideas, diversity of ideas and extrinsic-intrinsic motivation.

Epstein (1976) has suggested that lack of consistency or focus in self-theory will result in raised anxiety. This, and the findings of Walsh and Lewis (1972) enable one to hypothesize that:

- (i) there would be a negative correlation between anxiety and the degree of differentiation on the VPI; where differentiation refers to the spread of scores of an individual on the six vocational orientation scale of the VPI. (Holland, 1973, p4).

- (ii) there would be a positive correlation between anxiety and scores on the diversity component of PRISM.

The findings of Grimm and Nachmias (1977) regarding status suggests the third hypothesis, namely that:

- (iii) high anxiety subjects would select occupations of higher prestige than low anxiety subjects.

Before these hypotheses can be investigated, the Vocational Preference Inventory needs to be validated for the sample chosen, by analysis of scale inter-correlations, scale means, and correlation between VPI scale and other measures.

METHOD

Subjects

Two samples of Year 10 (15-year-old students) were selected from Perth government schools. Sample one consisted of 149 students of whom approximately two-thirds were male. Sample two was taken from a similar senior high school of whom 46% of the 262 students were male.

Instruments

(i) PRISM (Profile of Real/Ideal Scholastic Motivation) provides an objective description of individual's frame of reference relating to education. It was first developed as part of the instrumentation for a study of staff/student cognitive style similarity and student achievement at tertiary level (Docking; 1976a, 1976b). PRISM consists of three component factors or subscales:

- a) Involvement with ideas (Volume)
- b) Diversity of ideas (Breadth)
- c) Acceptance of externally set goals or standards (Motivation).

The items are statements about education to which students respond on a four point scale. Individual scores are determined by summing point values for each statement. Extensive validation has been conducted on the scales (Docking; 1976a). In 1978, PRISM was updated and revised to allow for wider application of the profile. Further validation of the profile is reported in Docking, (1979).

(ii) AACL - a modification of the Zuckerman Multiple Affect Adjective Checklist (MAACL). (Zuckerman, 1960; Docking, 1978). The scale consists of the 21 key anxiety words of the MAACL embedded in 39 adjectives serving as suitable descriptors of a secondary or tertiary course.

Words are listed in alphabetical order. To measure vocational anxiety the subject is asked to underline any words which describe how they generally feel when thinking about getting a job. Sample two also completed a Trait version of the AACL.

- (iii) VPI - Holland's Vocational Preference Inventory (Holland, 1975) was used as a measure of vocational interest. Some American occupational titles were modified so as to be suitable for use with Year Ten Australian students. The VPI has eleven subscales, six reflecting vocation-type preference (Realistic, Intellectual, Social, Conventional, Enterprising and Artistic) and five other scales (Self-control, Masculinity, Status, Infrequency and Acquiescence).

Procedure

Students were informed that the questionnaire measured attitudes toward school and vocational aspirations. The PRISM and AACL were administered first, followed by Holland's VPI. Administration of the instruments took 30 minutes to complete.

Data Analysis

A correlation analysis was performed on all variables (anxiety, grade levels, VPI scale scores, VPI differentiation and PRISM sub-scale scores). 9

As a check on the validity of the VPI instrument in Australian schools, the pattern of VPI scale inter-correlations was compared with those of Holland, Whitney, Cole and Richards (1969), Crabtree (1969) and Folsom (1971), using Spearman's Rank Order Correlation Analysis.

In order to assess the relationship between anxiety and differentiation of career preference, correlation was computed on anxiety scores and the standard-deviation of the VPI scale scores of each subject in both samples. This measure of differentiation was regarded as preferable to the range measured by Holland (1973).

The level of significance was set at 0.05.

Results

Before reporting data relating to the hypotheses, the performance of the VPI with Australian subjects must be assessed. The VPI scale inter-correlations are presented in Figure 1, using the hexagonal model described by Holland, et al. (1960).

The scale inter-correlations were compared to those given in Holland et al (1969, p.23) by ranking and calculating Spearman's rho as Crabtree (1969) had done. Although the VPI correlations differed in magnitude, the rank correlations indicated that they conformed to a very similar pattern to those found by Holland and by Crabtree. (Sample 1: $\rho = .52$, $p < 0.05$; Sample 2: $\rho = .67$, $p < 0.01$).

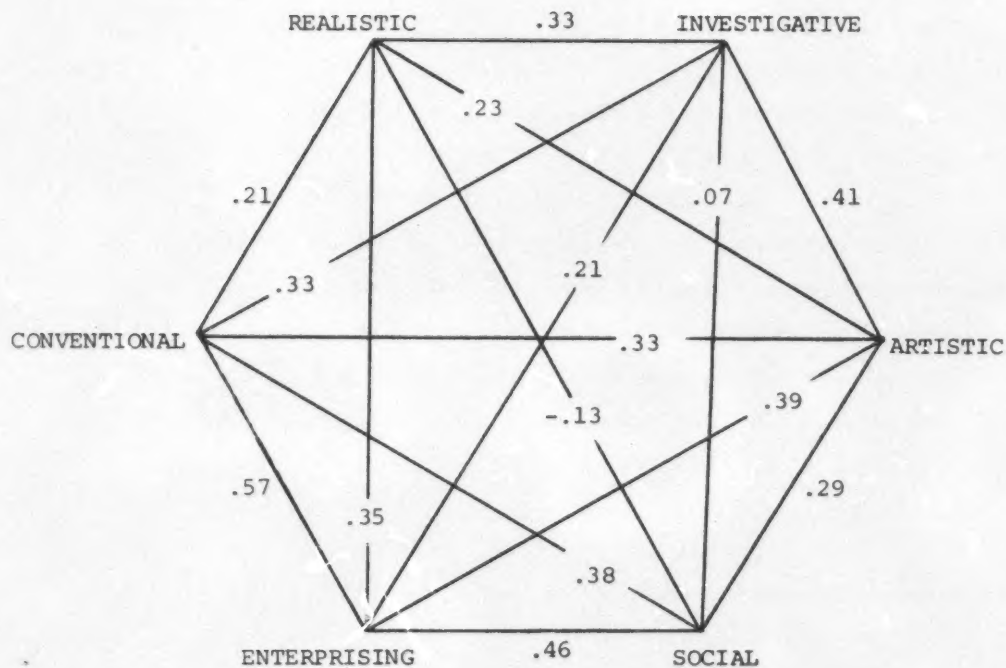


Figure 1. Hexagonal Model displaying similarity between vocational types. (After Holland et al., 1960).

The means on the 11 VPI scales were compared with those reported for High School children (9th - 12 Year) by Holland (1975, p.31) and no significant differences were found for either sample. It would appear that the VPI instrument, with the minor alterations mentioned earlier, is transferable to Australian school children.

The correlations of the VPI scales with other variables are summarized in Table 1. (See overleaf).

Table 1. Correlation with VPI Scale

	<u>VPI Scale</u>							
	Realistic	Social	Artistic	Conventional	Self-Control	Masculinity	Status	Infrequency
Sex	-.41	.42				.49		.36 .45
Volume						.20		
PRISM: Breadth			.31	.21		.25		.39 .28
Motivation			.55		.26	.37	.58	.79 .72
ANXIETY: Trait			.41		.20	.32	.61	.74 .75
DIFFERENTIATION			(Used in calculation of this variable)			.42		-.20 .31

The VPI - PRISM correlations conform to the findings reported in Holland (1975) for similar scales. Thus, PRISM: *Volume* does not correlate with any of the VPI scales (nor do *Intellectual Efficiency* in the California Personality Inventory, or *Achievement* in the Edwards Personal Preference Schedule). PRISM: *Breadth* performs similarly to the *Flexibility* scale of the CPI and PRISM: *Extrinsic Motivation to the Achievement by Conformity* scale of the CPI (Holland, 1975, p.25-26). The correlations in Table 1 conform to expectations derived from Holland's empirical summaries of each VPI scale (Holland, 1975, p.10-13) and further validate its use.

VPI Trait anxiety correlations also generally agree with the results of other studies. The Q4 scale of the 16PF Test (*Ergic tension - Tense/Relaxed*) shows no relationship to any

of the six main VPI scales except *Conventional* (Holland, 1975, p.26) and this too, is reported in Table 1. Trait anxiety also correlates with the *Social* scale and with *Self-control*, *Masculinity Status* and *Infrequency*. While these findings differ from Holland's data, the strong correlation with *Status* is hypothesized by Grimm and Nachmias (1977). No significant correlations at all were observed with the Vocational measure of anxiety from either sample. Trait anxiety was also found to correlate with the PRISM scales of *Breadth* (.23) and *Extrinsic Motivation* (.13).

VPI: *Differentiation* and *vocational anxiety* were found to be correlated (-.15) as were *Self-control*, *Status* and *Infrequency*. *Differentiation* is a measure of the extent to which an individual's responses to the six scales (Realistic, Investigative, Artistic, Social, Conventional or Enterprising) differentiate between types. It is not surprising, therefore, to find individuals expressing less *self-control* (inhibition, responsibility), selecting higher *status* positions (adventurous choices) and popular vocations (low *Infrequency*) tend to be indifferenced on the VPI.

Vocational anxiety levels were high at both schools, significantly higher than anxiety in any other area, and higher than trait anxiety (sample 2: $p < 0.001$). Vocational anxiety was marginally lower for sample 2, who were studying vocations, than for sample 1 who were not ($p < 0.02$). (See Figure 2 overleaf).

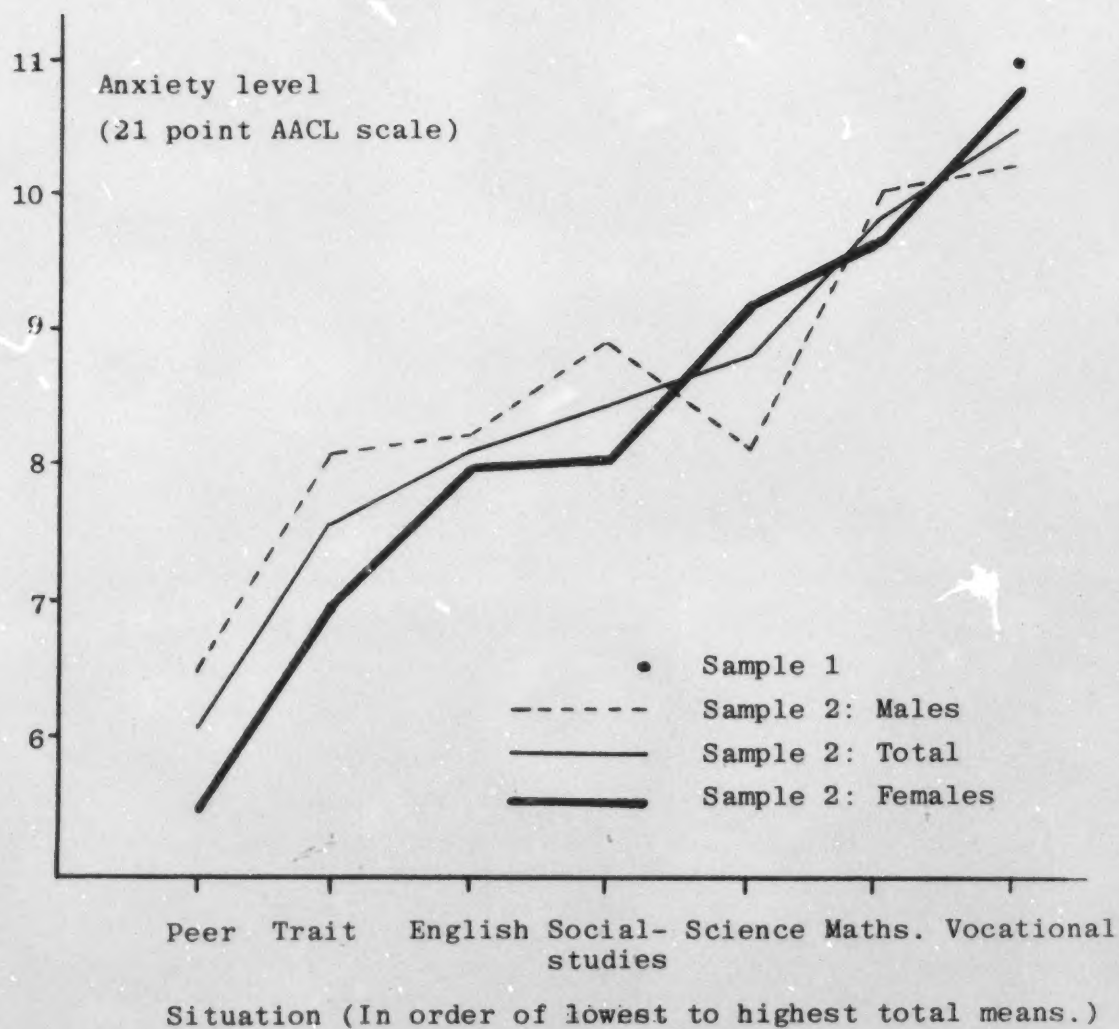


Figure 2. Mean Anxiety Levels.

The sex differences on the VPI Scales reported in Table 1 conform in direction to the data reported by Holland (1975) except for Masculinity, for which a significant negative correlation would be expected. (The variable sex was scored male = 1, female = 2).

Discussion

The validity of the VPI is confirmed above by comparison with previous research which shows similar patterns of VPI scale means and intercorrelations.

All Hypotheses are supported by the data, although the relationship between differentiation and anxiety, suggested by the first hypothesis, is very weak.

It has been suggested in other studies (e.g. Grimm and Nachmias, 1977; Kimes and Troth, 1974) that counsellors should take anxiety into consideration when giving vocational advice. While the problem of causality (does high anxiety cause uncertainty, or the other way around?) makes this a rather shaky recommendation, the weakness of the relationship between anxiety and uncertainty suggests that it would be quite unwise. High anxiety seems to be related to extrinsically motivated divergent individuals who may still be confident of their occupational choices.

The significant correlation between PRISM: *Diversity of Ideas* and Trait Anxiety confirms the second hypothesis. Epstein suggests that the uncertainty involved in divergence would be threatening and anxiety provoking. It is not surprising to find anxiety also associated with meeting the demands of others (*Extrinsic Motivation, Conventional, Social and Status*). High anxiety students appear to have quite definite vocational preferences (*Social - Conventional*) rather than suffer from vocational uncertainty.

The third hypothesis, suggesting that these individuals will select high status positions, is in agreement with the social-conventional perspective of the student indicating the need to impress and please others. This relationship was quite strong ($r = 0.79$). Sex differences can account for many of these results, as females tended to be higher in anxiety, social orientation and status consciousness.

The results suggest that the encouragement of competitive, extrinsically regarded teaching practices may be harmful. The evidence suggests that by teaching children to seek rewards and direction from outside themselves, schools are raising anxiety levels and limiting vocational choices. These prejudicial effects are likely to be more severe with females.

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